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## PATENT APPLICATION

ATTORNEY DOCKET NO. 10003896-1Inventor(s): Quintin T. Phillips

Confirmation No.: 2163

Application No.: 09/851,038

Examiner: Thierry L. Pham

Filing Date: 05/07/2001

Group Art Unit: 2625

Title: **SYSTEM AND METHODS FOR ADJUSTING COLOR GAMUT BASED ON PRINTER CONSUMABLE  
 CONDITION**

Mail Stop Appeal Brief - Patents  
 Commissioner For Patents  
 PO Box 1450  
 Alexandria, VA 22313-1450

**TRANSMITTAL LETTER FOR RESPONSE/AMENDMENT**

Transmitted herewith is/are the following in the above-identified application:

- ☐ Response/Amendment  
☐ New fee as calculated below  
☐ No additional fee  
☒ Other Amended Appeal Brief

- ☐ Petition to extend time to respond  
☐ Supplemental Declaration

Fee\$

CLAIMS AS AMENDED BY OTHER THAN A SMALL ENTITY						
(1) FOR	(2) CLAIMS REMAINING AFTER AMENDMENT	(3) NUMBER EXTRA	(4) HIGHEST NUMBER PREVIOUSLY PAID FOR	(5) PRESENT EXTRA	(6) RATE	(7) ADDITIONAL FEES
TOTAL CLAIMS		MINUS		= 0	X \$50	\$ 0
INDEP. CLAIMS		MINUS		= 0	X \$200	\$ 0
<input type="checkbox"/> FIRST PRESENTATION OF A MULTIPLE DEPENDENT CLAIM					+ \$360	\$ 0
EXTENSION FEE	<input type="checkbox"/> 1st Month \$120	<input type="checkbox"/> 2nd Month \$450	<input type="checkbox"/> 3rd Month \$1020	<input type="checkbox"/> 4th Month \$1590		\$ 0
OTHER FEES						\$
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT						\$ 0

Charge \$ 0 to Deposit Account 08-2025. At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account 08-2025 pursuant to 37 CFR 1.25. Additionally charge any fees to Deposit Account 08-2025 under 37 CFR 1.16 through 1.21 inclusive, and any other sections in Title 37 of the Code of Federal Regulations that may regulate fees.

☐ A duplicate copy of this transmittal letter is enclosed.

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Typed Name: Doreen ZabinskiSignature: *Doreen Zabinski*

Respectfully submitted,

Quintin T. Phillips

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Petar Kraguljac

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Docket No. 10003896-1

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**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of:	)	Examiner: Thierry L. Pham
Quintin T. Phillips	)	
	)	Art Unit: 2625
Serial No.: 09/851,038	)	
	)	
Filed: May 7, 2001	)	
	)	
For: SYSTEM AND METHODS FOR	)	
ADJUSTING COLOR GAMUT BASED	)	
ON PRINTER CONSUMABLE CONDITION)	)	
	)	Attorney Docket No.:
	)	10003896-1
	)	
	)	

February 22, 2007

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**AMENDED APPEAL BRIEF**

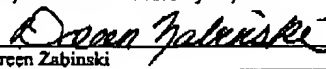
Dear Sir:

In response to the Notice of Non-compliant Appeal Brief dated Jan. 22, 2007, this Amended Appeal Brief is timely filed, which fully complies with 37 CFR 41.37 requirements.

**CERTIFICATE OF FACSIMILE**

Date of Deposit: February 22, 2007

I hereby certify that these papers are being transmitted to The Patent and Trademark Office facsimile number (571) 273-8300 on February 22, 2007.

  
Doreen Zabinski

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**1. Real Party in Interest:**

The real party in interest is Hewlett-Packard Development Company, LP, a limited partnership established under the laws of the State of Texas and having a principal place of business at 20555 S.H. 249 Houston, TX 77070, U.S.A. (hereinafter "HPDC"). HPDC is a Texas limited partnership and is a wholly-owned affiliate of Hewlett-Packard Company, a Delaware Corporation, headquartered in Palo Alto, CA. The general or managing partner of HPDC is HPQ Holdings, LLC.

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**2. Related Appeals and Interferences**

There are no other prior and/or pending appeals, interferences, or judicial proceedings that are related to, directly affect, or that will be directly affected by or have a bearing on the Board's decision.

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**3. Status of Claims**

Claims 1-11, 29-30 and 34 are pending in the application.

Claims 1-11, 29-30, and 34 are rejected.

Claims 12-28 and 31-33 have been cancelled.

The rejections of claims 1-11, 29-30 and 34 are appealed.

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**4. Status of Amendments**

An Amendment After Final was filed on March 13, 2006. The Amendment was not entered as indicated in the Advisory Action dated May 16, 2006.

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## 5. Summary of Claimed Subject Matter

Claims 1, 11, 29 and 34 are in independent form.

The application describes systems and methods for handling non-optimal printing conditions, for example, when a toner color becomes low or depleted. The effect of a depleted toner color in a color printer can be pronounced (specification, page 2, lines 6-13). To handle this type of situation, for example, alternative color schemes can be suggested that can handle the non-optimal condition. By allowing a user to select an alternative color scheme, the system can avoid canceling the print job or avoid printing the job with an unacceptable print quality, which can lead to additional re-printing (specification, page 7, lines 5-12).

### Independent Claim 1

Claim 1 is directed to a method that can be performed, for example, by a host computer when processing print jobs with a print device (See portions of Figure 4A, specification page 17, lines 1-7). Claim 1 recites submitting a print job to a print device (Figure 4A, block 400) and receiving notification from the print device that a non-optimal condition exists with one or more consumables (Figure 4A, block 410, specification page 17, lines 8-19). In response to receiving the notification, a warning message is displayed about a toner color affected by the non-optimal condition (Figure 4A, block 412, specification page 17, lines 19-20) and a visual representation of the print job is displayed without the affected toner color (Figure 4A, block 414, specification page 17, lines 20-21).

As part of the "displaying", one or more alternate color schemes are suggested for the print job where the visual representation of the print job can be displayed with a selected alternate color scheme from the one or more alternate color schemes to provide a selectable option (Figure 4A, block 424, specification page 18, lines 9-10). If an alternate color scheme

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is selected, the print job is resubmitted with the alternate color scheme to the print device (Figure 4A, block 428, specification page 18, lines 11-12).

#### Dependent Claim 2

Claim 2 depends from claim 1 and recites that the "resubmitting" of claim 1 further comprises adjusting the color gamut of the print device according to the selected alternate color scheme (see specification, page 9, lines 13+, or Figure 4B and corresponding text). The color gamut is the range of colors reproducible by a print device (specification, page 4, lines 7-8).

#### Dependent Claim 3

Claim 3 depends from claim 2 and recites that adjusting the color gamut comprises accessing a color look-up table and mapping the color gamut to replace non-reproducible colors with reproducible colors from the look-up table according to the selected alternate color scheme (specification page 5, lines 8-14). See also Figure 4B, blocks 430 and 432.

#### Independent Claim 11

Claim 11 recites a computer-readable media having computer-readable instructions for performing the method as recited in claim 1. Thus, the summary above applies for claim 11. The method in claim 1 recites submitting a print job to a print device (Figure 4A, block 400) and receiving notification from the print device that a non-optimal condition exists with one or more consumables (Figure 4A, block 410, specification page 17, lines 8-19). In response to receiving the notification, a warning message is displayed about a toner color affected by the non-optimal condition (Figure 4A, block 412, specification page 17, lines 19-20) and a visual representation of the print job is displayed without the affected toner color (Figure 4A, block 414, specification page 17, lines 20-21).



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As part of the "displaying", one or more alternate color schemes are suggested for the print job where the visual representation of the print job can be displayed with a selected alternate color scheme from the one or more alternate color schemes to provide a selectable option (Figure 4A, block 424, specification page 18, lines 9-10). If an alternate color scheme is selected, the print job is resubmitted with the alternate color scheme to the print device (Figure 4A, block 428, specification page 18, lines 11-12).

#### Independent Claim 29

Claim 29 recites a computer coupled to a print device (see Figures 1 and 2, computer 104). The computer includes a printer controller that provides options for managing a non-optimal condition (Figure 1, computer 104, printer device driver 220, page 14, lines 1-2, or Figure 4A, block 416). The options include permitting the print job to print with the non-optimal condition and permitting the print job to print without a toner color affected by the non-optimal condition. Claim 29 also recites visually presenting the print job in one or more selectable alternate color schemes that exclude the toner color affected by the non-optimal condition (specification, page 4, line 25 to page 5, line 6; or page 14, lines 9-12).

#### Dependent Claim 30

Claim 30 depends from claim 29 and recites that the printer controller is further configured to adjust the color gamut of the print device according to a selected alternate color scheme and resend the print job to the print device for printing (see specification, page 9, lines 13+, or Figure 4B and specification page 18, lines 13-23). The color gamut is the range of colors reproducible by a print device (specification, page 4, lines 7-8).

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Independent Claim 34

Claim 34 recites a system including a computer and a print device (see Figures 1 and 2, computer 104 and printer device 102). The print device includes a consumable component (Figure 2, consumable 210) and a monitoring device (Figure 2, monitor 211).

The computer is configured to:

visually display a print job based on the condition of the consumable component (specification, page 14, lines 10-11; page 17, 20-21 and Figure 4A, block 414);

look up one or more alternate color schemes based on the condition of the consumable component and display the print job with the one or more alternate color schemes (specification, page 14, lines 10-11; Figure 4A, block 424); and

send the print job to the electrophotographic print device to be printed with an alternate color scheme (Figure 4A, block 428).

These features are related to the method of claim 1. Thus, the summary and specification references can also be used here.

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## **6. Grounds of Rejection to be Reviewed on Appeal**

The following grounds of rejection are to be reviewed on appeal:

I. Whether Claim 1 complies with 35 U.S.C. §112, first paragraph.

II. Whether Claims 1-2 and 4-11 are unpatentable under 35 U.S.C. §103(a) as being obvious over Akiyama et al. (U.S. Patent No. 6,771,378) ("Akiyama"), and Kurachi (U.S. Patent No. 6,181,436) ("Kurachi"), and further in view of Nakagiri et al. (U.S. Patent No. 6,965,440) ("Nakagiri").

III. Whether Claim 3 is unpatentable under 35 U.S.C. §103(a) as being obvious over Akiyama, Kurachi, Nakagiri, and Yabe (U.S. Patent No. 5,907,415) ("Yabe"), including an apparent "Official Notice" of facts.

IV. Whether Claims 29, 30, and 34 are unpatentable under 35 U.S.C. §103(a) as being obvious over Akiyama in view of Munetomo (U.S. Patent No. 6,661,530).

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## 7. Argument

### I. Whether Claim 1 complies with 35 U.S.C. §112, first paragraph.

Claim 1 was rejected under 35 U.S.C. §112 first paragraph. The Office Action asserts that the amendments made to claim 1 added new matter that was not supported. Specifically the Office Action asserts that the application “does not suggest displaying a visual representation of the print job with the user selected color scheme.” The Office Action on page 2 emphasized the interpretation of “*selected* by the user.” (Emphasis in original) Appellant respectfully submits that claim 1 does not recite “with the user selected color scheme” and this appears to be the cause of the misunderstanding.

Claim 1 recites:

“displaying a visual representation of the print job without the affected toner color;

suggesting one or more alternate color schemes to use for the print job where the visual representation of the print job can be displayed with a selected alternate color scheme from the one or more alternate color schemes to provide a selectable option” (Emphasis added)

Appellant first notes that method claims are not necessarily limited to the specific sequential order of elements recited. In claim 1, the “suggesting” element refers to how the “displaying” element is performed and that the “visual representation” is displayed with an alternative color scheme. Thus, claim 1 does not define a method where the “suggesting” occurs strictly after the “displaying”. Reading the elements strictly sequentially may be the cause for the incorrect interpretation of claim 1 and thus the incorrect §112 rejection.

Furthermore, the underlined phrase is of the general form “an element from the group of elements”. It is a common drafting practice to recite such a phrase as “a selected element from the group of elements” to provide antecedent basis for the selected element and to

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distinguish it from the group. Thus, no new feature has been added by the phrase and claim 1 complies with 35 U.S.C. §112, first paragraph.

Regarding the interpretation of claim 1 provided by the Office Action, the interpretation is incorrect. Claim 1 states that a visual representation can be displayed with "a selected alternate color scheme" which is "from the one or more alternate color schemes." The claim does not recite that it is selected "by the user" as the Office Action states. Rather at this point in the process, the clause is defining what is being performed by the method. Thus, the method makes the selection of the "selected alternate color scheme." The specification supports this feature by at least one of the following sections:

"The options include having the system suggest one or more alternate color schemes that avoid the non-optimal condition while providing the most likely acceptable alternative to a user." (Specification, page 7, lines 5-7) (Emphasis added)

"Each look-up table provides one or more alternate color schemes that are the most likely acceptable alternative to the original color scheme that is no longer reproducible because of the non-optimal consumable condition." (Specification, page 7, lines 4-6) (Emphasis added)

The specification describes that from one or more alternative color schemes, the most likely acceptable alternative is provided by the system, which is the scheme(s) displayed. Therefore, the specification teaches and reasonably conveys that the process can make a decision and select a scheme (from one or more alternative color schemes) that is the most likely acceptable alternative and display it to the user.

Therefore, the specification discloses the claimed feature and reasonably conveys to one skilled in the art that the inventor, at the time the application was filed, had possession of the claimed invention. Claim 1 thus complies with the requirements of 35 U.S.C. §112, first paragraph, and the rejection should be reversed.

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**II. Whether Claims 1, 2, and 4-11 are unpatentable under 35 U.S.C. §103(a) as being obvious over Akiyama and Kurachi and further in view of Nakagiri**

**35 U.S.C. §103**

To establish a prima facie case of 35 U.S.C. §103 obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. MPEP 2143.01 Second, there must be a reasonable expectation of success. MPEP 2143.02 Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP 2143.03 Additionally, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). This requirement is intended to prevent unacceptable "hindsight reconstruction" where Applicant's invention is recreated from references using the Application as a blueprint.

Here, the third criteria described in MPEP 2143.03 is not satisfied since the combination of references does not teach or suggest all the claim limitations. None of the references, alone and/or in combination, teach (1) displaying a visual representation of the print job without the affected toner color or (2) suggesting alternate color schemes. Thus, none of the claims are obvious for at least this reason. Additionally, none of the references, alone and/or in combination teach visually presenting a print job in selectable alternate color schemes that exclude the toner color affected by the non-optimal condition.

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### Independent Claim 1

Claim 1 is directed to a method that includes displaying a visual representation of a print job without an affected toner color and suggesting alternate color schemes to use for the print job. While the references generally describe print previewing and may even print preview with a "toner save" condition, none of the references teach print previewing a print job as it would appear as compromised by a non-optimal condition (e.g. low ink color). Additionally, while the references may allow a user to select an ink to use to replace a missing ink, none of the references teach suggesting alternate colors schemes.

Claim 1 was rejected under 35 U.S.C. §103(a) as being unpatentable over Akiyama and Kurachi further in view of Nakagiri. The Office Action on page 3 asserts that Akiyama teaches suggesting one or more alternate color schemes. The Office Action points to Akiyama figures 21-24 to support these assertions. These figures represent simulated "message screens" (e.g. Fig. 21: message 33, Fig. 22: message 4, Fig. 23: message 5, Fig. 24: message 6) that are provided to a user when a printer reports that it is out of one color of ink. The messages provide a user an opportunity to select a different color ink to use in place of the depleted ink. The messages do not suggest an alternate color scheme, and do not display a visual representation of an alternative color scheme. The messages merely provide the user an opportunity to specify one single ink to replace one single missing ink.

Close examination of these message screens reveal that only a list of inks (e.g., cyan, yellow, magenta) are presented to a user. The list may be presented even if one of the standard colors is missing. Therefore, a printer may report that cyan is missing and then give the user the option of selecting cyan. This would cause the printer to again report that cyan is missing and require the user to choose again. This is not the same as "suggesting one or more alternate color schemes." A color scheme of a print job is more than just a single replacement ink.

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A color scheme is related to a color gamut. As described in the application, a color gamut refers to "the range of colors that is reproducible by a print device." Page 4, lines 7-8.

The relation is made on page 5, lines 8-14:

The color gamut available for printing the job is adjusted according to the alternate color scheme by mapping the print job to a look-up table that replaces non-reproducible colors with reproducible colors. Adjusting the color gamut based on an alternate color scheme permits the print job to proceed without being canceled, avoids the unacceptable fading or streaking between colors that occurs when a toner color is low or empty, and forestalls the need to replace the missing toner color.

Thus, one of ordinary skill would understand that a color scheme of a print job is more than just a single ink. Therefore, picking a different ink as described in Akiyama does not even approach "suggesting one or more alternate color schemes." For at least this reason Akiyama fails to support the rejection. Thus, combining Akiyama with the other references fails to establish a prima facie obviousness rejection because all the claim limitations are not taught or suggested. Therefore, all rejections are improper and should be reversed.

Additionally, the Office Action admits on page 3 that Akiyama fails to teach or suggest "displaying a visual representation of the print job without the affected toner color" in response to receiving the notification of a non-optimal condition. The Office Action asserts that Kurachi teaches this element and points to figure 5 to support the assertion.

Kurachi figure 5 discloses a list of print jobs including a "rough image" of print data. The "rough image" is not a visual representation of the print job without the affected toner color. As will be explained in more detail, the rough image is a reduced size or simplified version of the image and not a visual representation of the print job without the affected toner color. The discussion associated with a "rough image" is silent with respect to color schemes. The "rough image" rendered by Kurachi would likely appear the same regardless of the non-optimal condition (e.g., missing ink). Thus, even if combined, the references do not teach the claimed element. For this additional reason claim 1 is not taught or suggested by the combined references.



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In particular, Kurachi is directed to a print managing method that helps a user identify a certain print job from a number of print jobs. A problem can arise because print jobs have vague names and "it is difficult to determine which jobs corresponded to what kind of print data." (Kurachi, Background, column 1, lines 40-47). To address the problem, Kurachi teaches that a list of print jobs are displayed with a rough image so a user can identify the content of a print job. (Column 3, lines 24-25, and col. 9, lines 58-60, and col. 10, lines 24-26, and col. 11, lines 10-12, and see Figure 5).

Kurachi does not display rough images in response to receiving a notification of a non-optimal condition of a toner color. Rather, Kurachi displays a list of print jobs from a print spool when requested by a user (column 1, lines 25-30; or column 3, line 24: "...when a user views the list..."). Kurachi fails to mention anything related to non-optimal conditions of toner color. Thus, Appellant submits that the first ground of error of the rejection relating to Kurachi is that Kurachi fails to teach or suggest the claimed elements of "in response to receiving the notification...displaying a visual representation of the print job..." as recited in claim 1. Kurachi does not perform this feature and the interpretation of Kurachi by the Office Action is incorrect. Thus, the rejection is not supported by Kurachi and the combined references fail to teach all the limitations of claim 1. For at least this reason, the rejection cannot stand and should be reversed.

The second ground of error relating to Kurachi is that the "rough image" is not a visual representation of a print job without an affected toner color as stated in the Final Office Action on page 5. Kurachi describes the rough image as a reduced size of the image:

"The rough image is rough image showing the image corresponding to the stored print data. For instance, the rough image is produced by reducing the size of the image corresponding to the print data or by simplify [sic] the image corresponding to the print data." (Kurachi, Summary of the Invention, column 2, lines 59-63)

Kurachi also discusses that the rough image can involve "changing a shape of a line" or "changing a size" of the image (column 3, lines 58-64). Appellant finds no disclosure in

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Kurachi relating to non-optimal toner colors and nothing that suggests that the rough image is a visual representation of the print job without an affected toner color. Further, Kurachi fails to mention or consider anything related to alternative color schemes. Therefore, the rough image does not equate to the claimed visual representation. As such, Kurachi fails to teach or suggest the claimed "displaying a visual representation of the print job without an affected toner color" as recited in claim 1 and fails to cure the shortcomings of Akiyama. A prima facie obviousness rejection has not been established and the rejection should be reversed for at least this additional reason.

Regarding the Examiner's motivation to combine Aiyama and Kurachi at the bottom of page 3 being "allowing the user to easily identify the print jobs that failed due to non-optimal conditions existed within the printer...", Appellant submits that this motivation has been created using hindsight in an effort to combine unrelated references. One of ordinary skill would understand that Aiyama has nothing to do with identifying a failed print job since individual print jobs are processed by the user. There is not a list of failed print jobs that need to be identified. Kurachi shows a list of print jobs but has nothing to do with identifying a failed print job. Typically, failed print jobs are specifically identified by the system so a user would not need a special way to identify them. Therefore, one of ordinary skill in the art would fail to find the required motivation, suggestion, or teaching to combine the references as proposed in the Office Action. The rejection is improper for this additional reason and should be reversed.

The Office Action on page 4 admits that the combination of Akiyama and Kurachi fail to teach or suggest the visual representation of the print job can be displayed with a selected alternate color scheme from one or more alternate color schemes to provide selectable option. The Office Action asserts that Nakagiri teaches this feature and points to figures 8 and 13 to support the assertion. Close examination of Nakagiri figure 8 reveals no suggestion of a color scheme. Similarly, close examination of Nakagiri figure 13 reveals no suggestion of a color scheme. To the extent that these figures are related to printing, they provide a user a standard set of choices concerning options like paper size, paper orientation,

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and black & white versus color. These figures and Nakagiri in general are silent concerning print previewing a print job with an alternate color scheme or providing a selectable option for an alternative color scheme. The generic print preview of Nakagiri fails to cure the shortcomings of Akiyama and Kurachi, and fails to support a proper obviousness rejection.

For numerous reasons, a prima facie obviousness rejection has not been established that teaches or suggests all the claim limitations. The rejection is improper and should be reversed. Claim 1 is thus patentably distinguishes over the references of record and should be allowed. Accordingly, dependent claims 2-10 also patentably distinguishes over the references of record and should be allowed.

#### Dependent Claim 2

Claim 2 depends from claim 1 and recites adjusting the color gamut of the print device according to the selected alternate color scheme. Since none of the references teach suggesting an alternate color scheme, it follows that none of the references fail to teach or suggest adjusting the color gamut based on an alternate color scheme. For this additional reason this claim is not obvious and the rejection should be reversed.

Claim 2 was rejected under 35 U.S.C. §103(a) as being unpatentable over Akiyama and Kurachi further in view of Nakagiri. The Office Action asserts that Akiyama discloses adjusting the color gamut because "obviously, prior to print a print job with an alternate color schemes, the print must adjust the color gamut." See Office Action, page 4 (errors in original). The Office Action asserts that figures 21-24 disclose the adjusting.

This assumption of obviousness and the assumption of how Akiyama operates is incorrect. Akiyama specifically discloses that when a new ink is selected, the image data of the print job is modified, not a color gamut of the printer.

"In the alternative color mode, the image data (printing information) processing in step S803 is performed in such a manner that monochrome (black) data is replaced by

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alternative color data and the resultant image data (printing information) is output.”  
(Akiyama, column 28, lines 33-37)

Thus, Akiyama swaps one color for another within the image data of the print job. Adjusting a color gamut is not performed and the interpretation of the Office Action is incorrect. Therefore, the elements of claim 2 are not taught or suggested by the combined references and the rejection is improper. Claim 2 should be allowed for this additional reason.

#### Independent Claim 11

Claim 11 recites a computer-readable media having computer-readable instructions for performing the method as recited in claim 1. Since the combined references fail to teach or suggest all the limitations of claim 1, then the computer-readable media of claim 11 is also not taught or suggested. The rejection is thus improper and should be reversed.

#### **III. Whether Claim 3 is unpatentable under 35 U.S.C. §103(a) as being obvious over Akiyama, Kurachi, Nakagiri, and Yabe, including an apparent “Official Notice”**

Claim 3 depends from claim 2 recites that the method includes accessing a color look-up table that corresponds to the non-optimal condition and mapping the color gamut of the print device to the color look-up table to replace non-reproducible colors in the print job with reproducible colors from the look-up table according to the selected alternate color scheme.

The Office Action asserts that Yabe teaches a method for adjusting a color gamut. The Office Action points to figure 1, figure 3, and column 1, lines 24-30 as support for this assertion. The support is not present.

Yabe concerns adjusting colors associated with a scanned image. Yabe performs a color space compression process to convert RGB values produced by charge coupled devices (CCD) in a scanner. The RGB values may vary depending on spectral characteristics of

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CCDs. The image processor in Yabe works with CYM and therefore the RGB values are converted to CYM values. This has nothing to do with changing a color gamut to account for a missing ink in a printer.

It follows that Yabe is silent with respect to accessing a color look-up table that corresponds to a non-optimal print condition. To the extent that Yabe involves a color look-up table, it concerns RGB to CYM conversion, not adjusting a gamut based on a missing ink condition.

Appellant further submits that the required motivation, suggestion, or teaching to combine Akiyama, Kurachi, Nakagiri, and Yabe in the manner performed in the Office Action does not exist. Rather, it appears that hindsight reconstruction has been performed where the Office Action is using the Application as a blueprint to find parts of the claimed invention in unrelated references. Hindsight reconstruction has long been frowned upon:

A rejection based on section 103 clearly must rest on a factual basis, and these facts must be interpreted without **hindsight reconstruction** of the invention from the prior art. In making this evaluation, all facts must be considered. The Patent Office has the initial duty of supplying the factual basis for its rejection. It may not, because it may doubt that the invention is patentable, resort to speculation, unfounded assumptions or **hindsight reconstruction** to supply deficiencies in its factual basis. *In re Warner*, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967), cert. denied, 389 U.S. 1057 (1968) (emphases in original).

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). MPEP 2143.01

The hindsight reconstruction engaged in by the Office Action is impermissible since nothing in the prior art or the references suggests the desirability of combining the four references in the manner suggested. Additionally, even though the Examiner performed a keyword search and found four references that included words from the present claims, these four references still do not teach every element as claimed. Thus, even though four references are combined, the rejection further has to rely what is basically an "Official

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Notice" of facts when rejecting claim 3 (see Office Action, page 6, "Please also notes [sic], the method for adjusting color gamut and look-up table are widely available and known in the art.") For these additional reasons, the rejection of claim 3 is improper and the references fail to support the rejection. Thus, the rejection should be reversed and claim 3 should be allowed.

#### **Ascertaining Level of Ordinary Skill in the Art**

The MPEP requires that the Office Action ascertain and describe the level of ordinary skill so that objectivity can be maintained. MPEP §2141.03 reads:

The importance of resolving the level of ordinary skill in the art lies in the necessity of maintaining objectivity in the obviousness inquiry. *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718, 21 USPQ2d 1053, 1057 (Fed. Cir. 1991). The examiner must ascertain what would have been obvious to one of ordinary skill in the art at the time the invention was made, and not to the inventor, a judge, a layman, those skilled in remote arts, or to geniuses in the art at hand. *Environmental Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 218 USPQ 865 (Fed. Cir. 1983), *cert. denied*, 464 U.S. 1043 (1984).

Here the Office Action neither ascertains nor reports on the level of ordinary skill in the art. For these additional reasons, all the obviousness rejections are improper and must be reversed.

In the Final Office Action, it is particularly important for the Examiner to have identified and reported on the skill level of one skilled in the art because the Examiner takes "Official Notice" of many items that the Examiner asserts are "obvious". Specifically, the Examiner has taken "Official Notice" of what would be obvious to one "skilled in the art" in rejecting claims 1, 2, 3, 4, 9, 10, 29, and 34. By not ascertaining and describing the skill level of one skilled in the art, the Office Action has compromised Applicant's ability to respond meaningfully to the numerous "Official Notices" taken in the Office Action.

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This is especially true for the rejection of claim 2. What the Examiner stated as "obvious" from Akiyama (page 4 of the Office Action) has been shown to be incorrect based on the actual teachings of Akiyama. See the discussion under Claim 2 herein.

MPEP §2144.03 speaks directly to "Official Notice". This section counsels that only "in limited circumstances is it appropriate for an examiner to take official notice of facts not in the record or to rely on 'common knowledge' in making a rejection." MPEP §2144.03 This section specifically warns that "such rejections should be judiciously applied." MPEP §2144.03 Applying "Official Notice" to reject 8 of 14 claims is not "judiciously applying" this technique. Furthermore, the Office Action persists in its Official Notice even though this rejection has been made Final. "Official Notice without documentary evidence to support an examiner's conclusion is permissible only in some circumstances. While "official notice" may be relied on, **these circumstances should be rare when an application is under final rejection.**" MPEP §2144.03

Therefore, all rejections are improper and should be reversed.

**IV. Whether Claims 29, 30, and 34 are unpatentable under 35 U.S.C. §103(a) as being obvious over Akiyama in view of Munetomo**

Independent Claim 29

Claim 29 concerns a computer coupled to a print device. The computer includes a printer controller that provides options for managing a non-optimal condition. The options include permitting the print job to print with the non-optimal condition and permitting the print job to print without a toner color affected by the non-optimal condition. Claim 29 also discloses visually presenting the print job in one or more selectable alternate color schemes that exclude the toner color affected by the non-optimal condition.

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While Akiyama discloses providing some options when confronted with a non-optimal condition in a printer, it does not provide the claimed options. Similarly, while Munetomo discloses a print preview, it does not provide the claimed limitations of visually presenting the print job.

The Office Action asserts that Akiyama teaches permitting the print job to print with the non-optimal condition or without a toner color affected by the non-optimal condition. The Office Action points to the execute button on figures 21-24. However, pressing this execute button would not lead to the claimed actions. Pressing this execute button would apply a user choice concerning a replacement ink. Akiyama provides paths for only three choices: canceling a print job, repairing the printer, and using a substitute ink. None of these three choices are the claimed choices. For at least this reason claim 29 is not obvious.

The Office Action also asserts that Munetomo teaches displaying a visual representation of the print job without the affected toner color. The Office Action points to figures 12 and 13 to support the assertion. These two figures show a print preview with a "toner saver" setting activated or not activated. Munetomo states, "Fig. 12 and 13 show examples of the preview screen display when the toner save mode is set and when the toner save mode is not set, respectively." (Column 15, lines 5-7) In either case, the color scheme will be the same, only the ink density will be changed. (Column 3, lines 14-15: "...the print preview image is paler when a toner save mode is set than when the toner save mode is not set.")

Thus, Munetomo fails to disclose or consider alternate color schemes, selectable alternate color schemes, or alternate color schemes that exclude a toner color affected by a non-optimal condition. Thus, the combined references fail to teach or suggest all limitations of claim 29 including the visually presenting element, and the rejection cannot stand. Claim 29 is not obvious for this additional reason and should be allowed.



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### Dependent Claim 30

Claim 30 depends from claim 29 recites that the printer controller can adjust the color gamut of a print device according to a selected alternate color scheme.

Claim 30 was rejected under 35 U.S.C. §103(a) as being unpatentable over Akiyama and Munetomo. The Office Action on page 8 asserts that Akiyama “obviously” discloses adjusting the color gamut. This is basically an “Official Notice” of facts since no such teaching or suggestion appears in Akiyama. This incorrect conclusion is similar to the inherent obviousness reasoning under the rejection of claim 2. It has been shown under the discussion of claim 2 herein that Akiyama operates differently than presumed under the “obviousness” statement. Akiyama does not obviously disclose adjusting a color gamut. Therefore, Akiyama fails to teach or suggest the feature of claim 30 and fails to establish a prima facie obviousness rejection, even when combined with Munetomo. Thus, the rejection is improper and must be reversed.

### Independent Claim 34

Claim 34 is directed to a system that includes a computer configured to visually display a print job based on the condition of a consumable component in an electrophotographic print device. The computer is also configured to look up alternate color schemes based on the condition of the consumable component and to display the print job with the one or more alternate color schemes.

Claim 34 was rejected under 35 U.S.C. §103(a) as being unpatentable over Akiyama in view of Munetomo. The Office Action asserts that Akiyama teaches looking up alternate color schemes. The Office Action points to figures 21-24 to support this assertion. While these figures illustrate message screens that give a user the chance to select a different ink, to cancel a print job, or to fix a printer, they fail to teach or suggest looking up alternate color schemes. A computer configured to look up an alternative color scheme is not the same as a user selecting a single ink. Additionally, to the extent that a single ink can somehow be

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considered a color scheme, figures 21-24 do not teach looking up a color scheme based on a condition of a consumable. The popup messages illustrated in figures 21-24 likely present the same list of inks no matter what the condition of the printer.

Therefore, Akiyama fails to support the rejection for reasons which Munetomo is not relied upon to cure. The rejection is improper and cannot stand. Thus, claim 34 is not obvious for at least this reason and should be allowed.

The Office Action also asserts that Munetomo teaches displaying a visual representation of the print job without the affected toner color. The Office Action relies on Figures 12-13 to support this assertion. However, these figures say nothing about color, alternate colors, missing colors, and so on. These figures illustrate two print previews. The first print preview shows a black and white preview with a toner save setting active. The second print preview shows the same black and white preview with the toner save setting not active. While two different print previews are illustrated, neither is associated with a non-optimal printer condition and neither is associated with color. The toner save mode shows the same image but a paler version (Column 3, lines 14-15: "...the print preview image is paler when a toner save mode is set than when the toner save mode is not set."). Thus if colors are assumed, the color scheme will be the same. Therefore, this fails to teach a computer that looks up an alternate color scheme based on a condition of a consumable component and displays the print job as recited in claim 34.

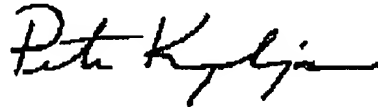
Thus, the combine references fail to establish a prima facie obviousness rejection because all the claim limitations of claim 34 are not taught or suggested. Therefore, the rejection is improper and should be reversed.

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**Conclusion**

For the reasons set forth above, a prima facie obviousness rejection has not been established for any claim. Thus, all rejections are improper and should be reversed. Accordingly, claims 1-11, 29-30 and 34 patentably and unobviously distinguish over the references of record and are now in condition for allowance. An early allowance of all claims is earnestly solicited.

Respectfully submitted,



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**8. Claims Appendix**

1. A method comprising:  
submitting a print job to a print device;  
receiving notification from the print device that a non-optimal condition exists with one or more consumables;  
in response to receiving the notification:  
displaying a warning message about a toner color affected by the non-optimal condition;  
displaying a visual representation of the print job without the affected toner color;  
suggesting one or more alternate color schemes to use for the print job where the visual representation of the print job can be displayed with a selected alternate color scheme from the one or more alternate color schemes to provide a selectable option; and  
if an alternate color scheme is selected, resubmitting the print job with the alternate color scheme to the print device.
2. A method as recited in claim 1, wherein resubmitting the print job further comprises:  
adjusting the color gamut of the print device according to the selected alternate color scheme.
3. A method as recited in claim 2, wherein adjusting the color gamut comprises:  
accessing a color look-up table that corresponds to the non-optimal condition; and  
mapping the color gamut of the print device to the color look-up table to replace non-reproducible colors in the print job with reproducible colors from the look-up table according to the selected alternate color scheme.

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4. A method as recited in claim 1 further comprising:  
presenting print options for selection; and  
executing a selected print option, the print options comprising:  
canceling the print job;  
permitting the print job to print with the non-optimal condition;  
permitting the print job to print without the affected toner color;  
redirecting the print job to an alternate print device;  
pausing to permit correction of the non-optimal condition and then printing  
the print job; and  
printing the print job in grayscale.
5. A method as recited in claim 1, wherein the non-optimal condition is a low toner level  
for one of a plurality of toner colors in an all-in-one toner cartridge.
6. A method as recited in claim 1, wherein the non-optimal condition is a depleted toner  
color for one of a plurality of toner colors in an all-in-one toner cartridge.
7. A method as recited in claim 1, wherein the non-optimal condition is a low toner level  
for one of a plurality of toner colors each located in a separate toner cartridge.
8. A method as recited in claim 1, wherein the non-optimal condition is a depleted toner  
color for one of a plurality of toner colors each located in a separate toner cartridge.
9. A method as recited in claim 1, wherein the non-optimal condition is a worn  
photoconductor.
10. A method as recited in claim 1, wherein the non-optimal condition is a worn transfer  
element.

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11. Computer-readable media having computer-readable instructions for performing the method as recited in claim 1.

12. - 28. (Canceled)

29. A computer coupled to a print device, the print device comprising a consumable component having a monitoring device configured to detect a non-optimal condition of the consumable component, the computer comprising:

a printer controller configured to send a print job to the print device;

the printer controller further configured to receive information from the monitoring device and provide options for managing a non-optimal condition, the options comprising:

canceling the print job;

permitting the print job to print with the non-optimal condition;

permitting the print job to print without a toner color affected by the non-optimal condition;

redirecting the print job to an alternate print device;

pausing the print job to permit correction of the non-optimal condition and then permitting the print job to print;

permitting the print job to print in grayscale; and

visually presenting the print job in one or more selectable alternate color schemes, each alternate color scheme excluding the toner color affected by the non-optimal condition.

30. A computer as recited in claim 29, wherein the printer controller is further configured to adjust the color gamut of the print device according to a selected alternate color scheme and resend the print job to the print device for printing.

31. - 33. (Canceled)

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34. A system comprising:

a computer;

an electrophotographic print device coupled to the computer, the print device comprising a consumable component including one or more of a toner cartridge, a photoconductor, or transfer element;

the consumable component comprising a monitoring device configured to send information about the condition of the consumable component to the computer;

the computer configured to visually display a print job based on the condition of the consumable component;

the computer further configured to look up one or more alternate color schemes based on the condition of the consumable component and display the print job with the one or more alternate color schemes; and

the computer further configured to send the print job to the electrophotographic print device to be printed with an alternate color scheme.

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**9. Evidence Appendix**

There is no extrinsic evidence.



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**10. Related Proceedings Appendix**

There are no related proceedings.